We claim:

1. A semiconductor apparatus, comprising:

a substrate having a substrate surface;

a first dielectric layer comprising molecules of a first compound, the molecules of the first compound having first ends and second ends, the first ends being covalently bonded to a first region of said substrate surface, said second ends having aromatic regions; and

a polycrystalline semiconductor layer comprising organic semiconductor molecules with aromatic portions, said polycrystalline semiconductor layer being on said first region of said substrate.

2. The semiconductor apparatus of claim 1 in which said organic semiconductor molecules comprise y conjugated pi-electrons, in which y is an integer of 10 or more, and said second ends of molecules of said first compound comprise at least y minus 8 conjugated pi-electrons.

3. The semiconductor apparatus of claim 1, in which said organic semiconductor molecules comprise a non-aromatic substituent.

4. The semiconductor apparatus of claim 1, in which said molecules of the first compound are bonded to said first region through a sulfur bond.

5. The semiconductor apparatus of claim 1, in which said molecules of the first compound are bonded to said first region through a silicon bond.

6. The semiconductor apparatus of claim 1, in which said aromatic portions of said organic semiconductor molecules are adjacent to said aromatic regions of said first compound.

7. The semiconductor apparatus of claim 1, in which said first ends and second ends are interposed by a non-aromatic region comprising between 0 and about 16 carbon atoms.

8. The semiconductor apparatus of claim 1, in which a single crystal of said organic semiconductor molecules is on at least about half of said first region.

9. The semiconductor apparatus of claim 1, further comprising:

a gate electrode;

a source electrode; and

a drain electrode;

said source and drain electrodes being in contact with a channel portion of said polycrystalline semiconductor layer on said first region, said gate electrode being positioned to control a conductivity of said channel portion.

10. The semiconductor apparatus of claim 2 further comprising a second dielectric layer comprising molecules of a second compound, the molecules of the second compound having third ends and fourth ends, said third ends being covalently bonded to a second region of said substrate surface, said fourth ends comprising no more than y minus 8 conjugated pi-electrons.

11. The semiconductor apparatus of claim 2, in which said molecules of the first compound comprise at least three conjugated aromatic rings.

12. The semiconductor apparatus of claim 10 in which said first and second regions form a pattern on said substrate.

13. A method of making a semiconductor apparatus, comprising the steps of:

providing a substrate having a substrate surface;

providing a first dielectric layer comprising molecules of a first compound, the molecules of the first compound having first ends and second ends, the first ends being covalently bonded to a first region of said substrate surface, said second ends having aromatic regions; and

providing a polycrystalline semiconductor layer comprising organic semiconductor molecules with aromatic portions, said polycrystalline semiconductor layer being on said first region of said substrate.

14. The method of claim 13 further comprising the step of providing organic semiconductor molecules comprising y conjugated pi-electrons, in which y is an integer of 10 or more, and in which said second ends of molecules of said first compound comprise at least y minus 8 conjugated pi-electrons.

15. The method of claim 13, further comprising the steps of:

providing a gate electrode;

providing a source electrode;

providing a drain electrode; and

placing said source and drain electrodes in contact with a channel portion of said polycrystalline semiconductor layer on said first region, said gate electrode being positioned to control a conductivity of said channel portion.

16. The method of claim 13, comprising the further step of applying a solution of said organic semiconductor molecules to said first region.

17. The method of claim 14 further comprising the step of providing a second dielectric layer comprising molecules of a second compound, the molecules of the second compound having third ends and fourth ends, said third ends being covalently bonded to a second region of said substrate surface, said fourth ends comprising no more than y minus 8 conjugated pi-electrons.

18. The method of claim 17 further comprising the step of forming a pattern by said first and second regions on said substrate.

19. An integrated circuit, comprising:

a substrate having a substrate surface;

a first dielectric layer comprising molecules of a first compound, the molecules of the first compound having first ends and second ends, the first ends being covalently bonded to a first region of said substrate surface, said second ends having aromatic regions;

a polycrystalline semiconductor layer comprising organic semiconductor molecules with aromatic portions, said polycrystalline semiconductor layer being on said first region of said substrate;

a gate electrode;

a source electrode; and

a drain electrode;

said source and drain electrodes being in contact with a channel portion of said polycrystalline semiconductor layer on said first region, said gate electrode being positioned to control a conductivity of said channel portion.

20. A method of making an integrated circuit, comprising the steps of:

providing a substrate having a substrate surface;

providing a first dielectric layer comprising molecules of a first compound, the molecules of the first compound having first ends and second ends, the first ends being covalently bonded to a first region of said substrate surface, said second ends having aromatic regions;

providing a polycrystalline semiconductor layer comprising organic semiconductor molecules with aromatic portions, said polycrystalline semiconductor layer being on said first region of said substrate;

providing a gate electrode;

providing a source electrode;

providing a drain electrode; and

placing said source and drain electrodes in contact with a channel portion of said polycrystalline semiconductor layer on said first region, said gate electrode being positioned to control a conductivity of said channel portion.